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CATALOGUE OF POSITIONS OF 24900 STARS TAPE
B, MEAN VALUES OF THE OBSERVATION (NASA)
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**Documentation
for the Machine-Readable Version
of the Perth 70:
A Catalogue of Positions of 24900 Stars
Tape B, Mean Values of the Observations**

July 1980

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DOCUMENTATION FOR THE MACHINE-READABLE VERSION OF THE
PERTH 70: A CATALOGUE OF POSITIONS OF 24900 STARS
TAPE B, MEAN VALUES OF THE OBSERVATIONS

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July 1980

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SECTION 1 - INTRODUCTION

The PERTH 70 catalog (E. Høg and J. von der Heide, 1976, *Abh. der Hamburger Sternwarte*, Band IX) contains accurate positions of 24978 stars, plus other useful data such as approximate proper motions, radial velocities, and parallaxes. The Perth 70 is a result of meridian circle observations made by the Hamburg Observatory expedition to Perth as part of the international effort on Southern Reference Stars (SRS).

This document describes only the tape B, which contains mean values of the observations and corresponds to the printed catalog referenced above. The individual observations from each night are available on a tape A, which is described in another document.

SECTION 2 - TAPE CONTENTS

A byte-by-byte description of the contents of the tape catalog is given in Table 1. The suggested format given for each datum can be modified depending upon usage; real format specifications are given in many cases to indicate clearly where decimal points should be located within the fields.

Table 1. Tape Contents. Perth 70 Catalogue B

Byte(s)	Datum	Suggested Format
1 - 7	CDS identification number	7A1
8 - 12	Observing number of star	I5
13 - 14	Total # of type 3 records in cat. of individual obs., tape A	I2
15 - 19	SRS # of star	I5
20 - 23	FK4 - Supplement number or 0	I4
24	Lower culmination (LC) = 1, else 0	I1
25 - 28	Magnitude (0^m1)	F4.1
29 - 31	Spectral type from SRS or GC (coded)	
	29 - 30 Temperature class (2=O, 3=B, 4=A, 5=F, 6=G, 7=K...)	I2
	31 Temperature subclass	I1
32 - 40	Right ascension 1950.0 (SRS)	
	32 - 33 hours	I2
	34 - 35 minutes	I2
	36 - 40 seconds (0^s001)	F5.3
41 - 49	Declination 1950.0 (SRS)	
	41 - 43 degrees	I3
	44 - 45 arcminutes	I2
	46 - 49 arcseconds ($0''.01$)	F4.2
50 - 56	μ_α centennial (0^s001) (SRS)	F7.3

Table 1. Tape Contents. Perth 70 Catalogue B (continued)

Byte(s)	Datum	Suggested Format
57 - 63	μ_δ centennial (0".01) (SRS)	F7.2
64 - 68	Radial velocity (0.1 km s ⁻¹) (SRS)	F5.1
69 - 71	Parallax π (0".001) (SRS)	F3.3
72	Type of star (F=FK4; S=FK4 Supp. star; B=bright star, but not FK4 or Supp.; P=SRS program star)	A1
73 - 74	Number of accepted α observations	I2
75	1 if obs. rejected in α , else 0	I1
76 - 77	Number of accepted δ observations	I2
78	1 if obs. rejected in δ , else 0	I1
79 - 80	Number of accepted magnitude observations	I2
81	1 if obs. rejected in magnitude, else 0	I1
82 - 85	Mean epoch - 1900 for α (0 ^y .01)	F4.2
86 - 88	Mean π factor in α (0.01)	F3.2
89 - 93	$\Delta\alpha \cos \delta$, mean value; - $\Delta\alpha \cos \delta$ in LC (0".01)	F5.2
94 - 96	Mean error of one observation (0".01)	F3.2
97 - 100	Mean epoch - 1900 for δ (0 ^y .01)	F4.2
101 - 103	Mean π factor in δ (0.01)	F3.2
104 - 108	$\Delta\delta$, mean value; - $\Delta\delta$ in LC (0".01)	F4.2
109 - 111	Mean error of one observation (0".01)	F3.2
112 - 115	Mean epoch - 1900 for magnitude (0 ^y .01)	F4.2

Table 1. Tape Contents. Perth 70 Catalogue B (concluded)

Byte(s)	Datum	Suggested Format
116 - 119	Observed visual magnitude, mean value (0^m01)	F4.2
120 - 122	Mean error of one observation (0^m01)	F3.2
123 - 127	0 if star only observed in UC NR if same star in LC	A5
128 - 135	α observed, equator and equinox 1950.0 at mean epoch given in bytes 82-85 (0^s001)	F8.3
136 - 144	δ observed, equator and equinox 1950.0 at mean epoch given in bytes 97-100 (0^s01)	F9.2
145 - 148	Reserved location for improved μ_α (0.001 s/y)	
149 - 152	Reserved location for improved μ_δ (0.01 "/y)	
153 - 160	DM number	
153	Sign	A1
154 - 155	DM zone	I2
156 - 160	DM number	I5

SECTION 3 - TAPE CHARACTERISTICS

The information contained in Table 2 is sufficient for a user to read the machine version of the catalog. Statistics for the entire catalog are given in the table, but data which are easily varied from installation to installation, such as blocksize (physical record length), blocking factor (number of logical records per physical record), total number of blocks, and tape density, and coding (EBCDIC, ASCII, BCD, etc.) are not included: these parameters should always be supplied if secondary tape copies of the catalog are transmitted to other users or installations.

Table 2. Tape Characteristics. Perth 70 Catalogue

NUMBER OF TRACKS	9
NUMBER OF FILES	1
LOGICAL RECORD LENGTH (BYTES)	160
RECORD FORMAT	FB
TOTAL NUMBER OF LOGICAL RECORDS	24978

SECTION 4 - REMARKS

The tape version of the Perth 70 catalog was obtained from The Centre de Donnees Stellaires, Strasbourg. As supplied, data for each star were contained in two logical records of 89 bytes each (a CDS identification number had been added to each original 80-byte record). The data were reformatted at NSSDC to contain a single logical record of 160 bytes for each star, while simultaneously eliminating the duplicate CDS identification number on each record and any superfluous (blank) bytes, not including the blank fields reserved for improved proper motions (bytes 145-152 of each logical record). A further modification was to write all DM numbers in a uniform format consisting of a zone sign, integer zone and number always in the same bytes. (As received, the DM numbers had been written as integers having no + signs and - sign location depending on the magnitude of the integer number). The catalog was also checked for number of records and for blank Perth 70 positional data; none was found.

SECTION 5 - SAMPLE LISTING

The sample listing given here contains logical data records exactly as they are recorded on the tape. The beginning of each record and bytes with that record are indicated by the column heading index across the top of the listing. Since the Perth 70 records are longer than 115 bytes, the first row contains the first 115 bytes and bytes 116-160 are continued in the second row of each record.

LISTING OF RECORDS FROM TAPE FILE

TAPE FILE NAME: PERTH 70

RECORDS 24969 TO 24978

TAPE FILE 1

RECORD LENGTH 160 BYTES

INPUT VOLSER WHW21

C O L U M N
H E A D I N G
I N D E X

11111111112222222222333333333344444444445555555555 666666666677777777778888888888999999999900000000111111
12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345

RECORD	24969	1062877	6 44511239310	70 702 15921753-37302816	-121	-468	0	05 31 40 407102-18	-38	197121 48	19	357121
		702 3	086361696-13502805	0-3715469								
RECORD	24970	1062877	71031630	00 40 83235923719 -6173091	329	-360	0	43F100100 917015 13	-6	247015 11	26	246989
		458 9	086363780 -2265138	0 0-06 6345								
RECORD	24971	1062877	8 112437	00 72 43235928791 -3024094	410	-110	0	0P 10 10 106890 82 -143	06890 38	79	06890	
		685 0	086368771 -1096036	0 0-03 5750								
RECORD	24972	1062877	9 418438	00 88 65235931994-56473522	-476	-340	0	0P 40 31 407005 35	-15	147013 53	5	217005
		869 3	086371881-20445545	0 0-5710405								
RECORD	24973	1062877	10 145113	00 58 60235933180 26490278	6250	-9880	0	868 10 10 106880 42	-3	06880-24	78	06880
		640 0	086374350 9652439	0 0+26 1734								
RECORD	24974	1062877	12 218439	00 77 58235942113-13411032	1868	440	0	0P 20 20 206920 -4	-34	526920 5	-73	76920
		695 0	086382447 -4927021	0 0-14 6603								
RECORD	24975	1062877	13 218440	00 83 70235943287 -9271161	110	-150	0	0P 20 10 207025 12	-21	126865 -3	55	07025
		857 4	086383293 -3403134	0 0-09 6309								
RECORD	24976	1062877	14 34511439320	50 35235946291-29595679	142	99	0	05 30 30 307012 32	-13	87012 58	75	157012
		448 3	086386308-10799584	0 0-3019790								
RECORD	24977	1062877	15 418441	00 94 65235955577-39292577	-20	-400	0	0P 40 40 407097 4	91	87097 53	-45	167097
		967 10	086395651-14216706	0 0-3915238								
RECORD	24978	1062877	16 24511539330	58 50235956191 8122799	-648	-415	96	05 20 20 206880 24	-6	186880 3	-20	286880
		572 4	086396065 2954701	0 0+07 5121								